

SCHOLASTIC BOWL

Full question set including toss-ups and bonuses.

ROUND 1 SET 2

For use only on Month Date, Year

Tear bottom-right tag along dashed line upon use.

Questions written by

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Scholastic Bowl

Round 1 — Set 2

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The following are notes for moderators. Please note that these rules may be overridden by questions when indicated.

On reading

- Where appropriate, pronunciation guides have been provided.
- The moderator is to read each question exactly as written, emphasizing italicized words.
- When a player buzzes in, the moderator is to immediately stop reading.
- The moderator must use a consistent and reasonably slow reading pace. The moderator must speak intelligibly and loud enough for all players to hear the question in its entirety. Players may stop the moderator at any time to request that the moderator speak louder or more clearly.

On answers

- The moderator is to accept only the answer indicated beneath a question.
- The bolded part of each answer is required to receive points. Other parts are optional.
- Brackets beside answers provide the moderator notes and additional information to assist with scoring (which may override the rules provided on this page).
- Unless the answer is a proper noun, the moderator must accept both singular and plural variants of an answer.
- “prompt”: The moderator will say *prompt* or indicate in some other way that additional information is required. The moderator may prompt multiple times on the same question as long as each subsequent answer provides more information than the last and each answer is correct.
- “this/these word(s) only”: The answer (or its required parts) must be said in isolation without any modifiers to receive points.
- “equivalent/descriptive answers”: The moderator must evaluate whether the response is equivalent in meaning to the indicated answer and award points accordingly.
- “also accept”: The moderator must also accept the indicated secondary answer(s).

On powerplays

- All toss-up questions contain the symbol (*) which indicates the *powerplay* cutoff.
- When a toss-up is answered before the powerplay cutoff, the team which answered receives 15 (instead of 10) points for that toss-up.
- The powerplay bonus is awarded by whether the competitor buzzes in before the powerplay cutoff, not when the moderator stops reading.

Questions begin on the next page.

1. **MATH**

These processes are called greedy if they always make the locally optimal choice. Turing machines can execute any of *these* processes. Big O notation (*) is used to describe the time and space complexity of *these* processes. For 10 points, name *these* finite, step-by-step sequences of unambiguous instructions that can be used to perform a computation.

ANSWER: algorithm [prompt on *program*]

1. **MISCELLANEOUS**

Name *these* 1990s bands with prominent drummers. For 10 points each,

A Dave Grohl drummed on hits like *Heart-Shaped Box* and *Smells Like Teen Spirit* for *this* band. He went on to form the Foo Fighters after the suicide of *this* band's lead singer, Kurt Cobain.

ANSWER: Nirvana

B Tré Cool replaced John Kiffmeyer in 1990 as *this* band's drummer. He drummed in hits like *Brain Stew*, *American Idiot*, and *Know Your Enemy*.

ANSWER: Green Day

C Chad Smith drummed for *this* band since 1988, producing hits such as *Snow*, *Under the Bridge*, and *Californication*.

ANSWER: Red Hot Chili Peppers

2. **SOCIAL SCIENCE**

Plato once referred to *these* animals as “the only featherless bipeds with broad, flat nails (*).” A philosophical stance named after *these* animals was pioneered by Petrarch. Friedrich Nietzsche [Neet-shuh] claimed that *these* animals killed God. For 10 points, name *these* animals which were often the subject of Italian Renaissance art like the *Mona Lisa*.

ANSWER: humans

2. **SCIENCE**

In mechanical physics, almost all translation quantities have rotational analogues. Name the following quantities and operations used in rotational mechanics. For 10 points each,

A *This* quantity is the rotational analogue of force. When a force is applied perpendicular to a lever arm, *this* quantity is the force applied multiplied by the distance to the pivot.

ANSWER: torque

B Torque is the rotational analogue of force. Therefore, by Newton's Second Law, it is also equal to angular acceleration multiplied by *this* quantity.

ANSWER: rotational inertia [also accept moment of inertia, angular mass, rotational mass, or second moment of mass]

C When the force and lever arm vectors are not perpendicular, *this* vector operation must be used to find torque. Unlike the dot product, this operation yields a vector.

ANSWER: cross product

3. **HISTORY**

During the War of 1812, *this* poet watched from a British ship as the American troops in Fort McHenry raised their flag (*). Abolitionists criticized *this* poet's words that America was the land of the free—instead referring to it as “the land of the free and the home of the oppressed.” On March 26, 2024, a Baltimore bridge named after *this* poet collapsed. For 10 points, name *this* poet who wrote *The Star-Spangled Banner*, which later became the US national anthem.

ANSWER: Francis Scott Key

3. **MISCELLANEOUS**

In French culinary theory, there are *mother* sauces from which many other *daughter* sauces are derived. Name the following mother sauces by the daughter sauces they're used to make. For 10 points each,

A *This* mother sauce is the base for salsas and many pasta dishes.

ANSWER: tomato sauce

B *This* mother sauce is the base for tartar sauce and ranch dressing.

ANSWER: mayonnaise

C *This* mother sauce is the base for foyot [foe:vote] sauce and is often served with Eggs Benedict.

ANSWER: hollandaise sauce

4. LITERATURE

In *this* cautionary novel, Oceania, Eurasia, and Eastasia are constantly at war, which Emmanuel Goldstein believes is the only way to maintain peace. In *this* novel, Winston Smith is betrayed and captured by secret members of the Thought Police (*) who turn him in to the Party. Four government agencies in *this* novel are ironically named the Ministries of Truth, Peace, Love, and Plenty. For 10 points, name *this* dystopian novel about totalitarianism, written by George Orwell, which popularized terms such as *thoughtcrime*, *doublethink*, and *Big Brother*.

ANSWER: Nineteen Eighty-Four

4. SCIENCE

Every quantity you can think of can be expressed in terms of SI units. Name the following quantities by their definition in SI units. For example, if I said *meters per second*, you would answer *speed* or *velocity*—both are acceptable. For 10 points each,

A *This* quantity is measured in meters cubed.

ANSWER: volume [do **not** accept or prompt on *liter*]

B *This* quantity is measured in ampere-seconds.

ANSWER: electric charge [do **not** accept or prompt on *coulomb*]

C *This* quantity is measured in kilogram-meters squared per second squared.

ANSWER: energy [also accept work or torque or heat (but **not** *temperature*); do **not** accept or prompt on *joule*]

5. SOCIAL SCIENCE

This company, formerly known as *Real-Time Cures* was exposed by John Ioannidis for its exaggerated claims. In response to growing skepticism, executives at *this* company invited Vice President Joe Biden to tour its facilities. Although Joe Biden initially praised the lab, it was later found that the facility was fake and used only to lure investors. Elizabeth Holmes, the CEO of *this* company, claimed its technology could perform thirty distinct tests on a single drop of blood (*). For 10 points, name *this* fraudulent company whose name is derived from a combination of the words *therapy* and *diagnosis*.

ANSWER: Theranos

5. HISTORY

Ulrich Zwingli and John Calvin, among others, rebelled against Catholicism in the Protestant Reformation that began in the 1500s. For 10 points each,

A Among those who rebelled was *this* German priest who was tried in the Diet of Worms for nailing his *Ninety-five Theses* to the door of a Catholic Church. In doing so, he founded a namesake religion.

ANSWER: Martin Luther [also accept Lutheranism]

B In his *Ninety-five Theses*, Martin Luther argues against the effectiveness of *these* items sold by the Catholic Church. Johann Tetzel claimed that these items could be bought to relieve a Catholic from common sins.

ANSWER: indulgences

C Although theologians like Jan Hus [Yaan Hoose] had similar ideas, Martin Luther's movement found great success because his message was spread throughout Europe by *this* newly-invented device.

ANSWER: printing press

6. **SCIENCE**

This interaction is, by far, the weakest of the four fundamental interactions. Like the electrostatic force, *this* interaction has infinite range. In his general theory of relativity, Einstein showed that *this* interaction was not a force, but rather the result of the curvature of spacetime. On Earth's surface, *this* interaction's constant of acceleration is 9.8 meters per second squared. For 10 points, name *this* interaction which gives weight to all objects on Earth.

ANSWER: gravity

6. **FINE ARTS**

Name the following structures in Greco-Roman architecture. For 10 points each,

A *These* structures can be built in the Doric, Ionic, or Corinthian style. They have a base, shaft, and capital and are often used to bear a vertical load.

ANSWER: column [prompt on *pillar*]

B *These* open-air buildings, which are used for entertainment, often feature many columns and arches. Isidore of Seville said that *these* buildings are called what they are because, unlike a traditional theater, *these* structures are round.

ANSWER: amphitheater

C *This* structure is the largest amphitheater that has ever been built.

ANSWER: Colosseum

END OF QUESTION SET

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